

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

DATA CLOUD TECHNOLOGIES, LLC,

Plaintiff

v.

CHARTER COMMUNICATIONS, INC.,

Defendant.

Civil Action No. 6:21-cv-00662-ADA

**DEFENDANT CHARTER COMMUNICATIONS, INC.'S OPENING CLAIM
CONSTRUCTION BRIEF**

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This case involves seven patents, spread across five families, originally assigned to five different entities, that pertain to five different technological areas. The first patent, U.S. Patent No. 6,560,613 (the “’613 patent” (Ex. 1)) relates to the disambiguation of “file descriptors,” which are used in some operating systems to provide access to files and communications channels by intercepting the normal system calls that would create the ambiguous file descriptors and instead storing disambiguated indicators. The second patent, U.S. Patent No. 6,651,063 (the “’063 patent” (Ex. 2)), relates to a system for storing and managing information based on information categories. The third patent, U.S. Patent No. 6,824,064 (the “’064 patent” (Ex. 3)), relates to controlling the scheduling of applications that run on smart cards to a predetermined granularity. The fourth, fifth, and sixth patents, U.S. Patent Nos. 7,209,959 (the “’959 patent” (Ex. 4)), 8,370,457 (the “’457 patent” (Ex. 5)), and 8,762,498 (the “’498 patent” (Ex. 6)) (collectively, the “Campbell patents”), share a single specification. They relate to “the use of three algorithms, known collectively as DNS Misdirection and individually as the deceiver, the controller, and the forwarder” to manage network communications. Finally, the seventh patent, U.S. Patent No. 8,607,139 (the “’139 patent” (Ex. 7)) relates to a web content management system that uses a “metadata template” to generate a “data entry form,” which in turn is used to generate individual web pages.

Each of these patents use claim terms that are subject to the patentee’s lexicography or clear disclaimer. In addition, several of the asserted claims use functional language that invokes 35 U.S.C. § 112, ¶ 6 and, in some of these cases, the patentee failed to recite the structure needed to perform the claimed functionality.

I. ’613 PATENT

A. Overview

The ’613 patent teaches that “[m]any computer operating systems utilize file descriptors to provide access to file systems. Under such operating systems, a file is created by making a system

call that creates a file and returns a file descriptor that is associated with the newly created file. Subsequently, the file is accessed via the file descriptor.” 2:35-40. The “present invention” of the ’613 patent is directed to “disambiguating file types on a computer system, and specifically to disambiguating communication channel file descriptors from file descriptors that are associated with files stored on physical media.” ’613 Patent at 1:7-11.

B. “intercepting” (claims 8, 11, and 21)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
“replacing a pointer in the system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call”	No construction necessary

“[W]hen a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.” *GPNE Corp.*

v. Apple Inc., 830 F.3d 1365, 1370 (Fed. Cir. 2016). The “Background of Invention” recites:

In order to intercept a system call, ***a pointer in the system call vector table to the system call is replaced with a pointer to alternative object code to be executed instead of the system call.*** Then, when the operating system reads the system call vector table in response to the system call being requested, the operating system will read the pointer to the alternative object code, and the alternative object code will execute instead of the system call. The alternative object code is typically known as a system call wrapper.

’613 patent at 1:66-2:7 (emphasis added). The patent again and again states that “intercepting” is the process of placing a pointer in the system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call. *See, e.g., id.* at 4:8-16 (“In one preferred embodiment . . . [i]n order to maintain the table, system calls that establish a communication channel are intercepted. Pointers in the system call vector table to system calls that establish a communication channel are replaced with pointers to alternative object code (a system call wrapper), such that when the system calls are made, the system call wrapper executes instead.”); 4:44-48 (“[I]n one embodiment system calls that delete file descriptors are intercepted.

Again, pointers in the system call vector table to system calls that delete file descriptors are replaced with pointers to a system call wrapper.”); 8:3-8 (“Once the copies 116 have been made and saved, the pointers 114 in the system call vector table 113 to the system calls 115 to be intercepted are replaced with pointers 118 to the system call wrapper 111, such that when a system call 115 to be intercepted is made, the system call wrapper 111 executes instead.”); *see also* 8:17-27 (describing the same process to intercept system calls); 9:25-33 (same); 9:56-64 (same); 13:63-14:3 (same). In view of these disclosures, a person of ordinary skill in the art would understand that the term “intercepting” in the ’613 patent is “replacing a pointer in each system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call.”

C. “system calls” (claims 8, 11, and 21)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
subroutines located in an operating system, such that the subroutines can be called by processes executing under the control of the operating system	No construction necessary

The ’613 patent is clear: “A system call is a subroutine, the object code of which is located in an operating system, such that the subroutine can be called by processes executing under the control of the operating system.” ’613 patent at 1:33-36. Regardless of whether there is an ordinary and customary meaning to this term, where, as here, the specification provides “a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess ... the inventor’s lexicography governs.” *See Phillips v. AWH Corp.*, 415 F. 3d 1303, 1316 (Fed. Cir. 2005). Accordingly, Charter submits that “system calls” should be construed as “subroutines located in an operating system, such that the subroutines can be called by processes executing under the control of the operating system.”

D. “program code for intercepting system calls that [establish a file stored on media/create a copy of at least one file descriptor]” (claim 21)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6.</p> <p>Function: “intercepting system calls that [establish a file stored on media/create a copy of at least one file descriptor]”</p> <p>Structure: Code that replaces a pointer in each system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call, where the system call [creates a file stored on media/creates a copy of at least one file descriptor].</p>	<p>No construction necessary</p>

There is a rebuttable presumption that § 112, ¶ 6 does not apply where a claim does not use the terms “means” or “step for.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). However, the “presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Id.* at 1349; *Glob. Equity Mgmt. (SA) Pty. Ltd. v. Expedia, Inc.*, No. 216CV00095RWSRSP, 2016 WL 7416132, at *29 (E.D. Tex. Dec. 22, 2016). Whether the recitation of “program code for” performing a function invokes § 112, ¶ 6 “depends on whether the stated objectives and operation of the code connote sufficiently definite structure.” *Glob. Equity*, at *29.

The Eastern District of Texas, in *Global Equity*, considered claim language using the same “program code for . . .” format used in the ’613 patent. There the phrase was “program code for configuring said at least one partition of said at least one secondary storage device through a secondary storage partitions window.” *Id.* at *27. The court found that this term invoked § 112, ¶ 6 because it was “defined only by the function that it performs” and did not describe “[h]ow the code interacts with other code or structure of the claimed invention.” *Id.* at *29.

Here the '613 patent uses the same generic “program code” term which does not describe a specific structure. Declaration of Kevin Almeroth, Ph.D. (“Almeroth Decl.”), ¶49. Nor does claim 21 provide any structure by merely reciting the intended result of the “program code,” i.e., intercepting system calls. *Id.* Intercepting system calls is not a function performed by ordinary computer hardware without specialized software. *Id.*, ¶51. Like the “program” code of *Global Equity*, the claim does not prescribe how the “program code” interacts with other structures. Instead, such description is left to an embodiment disclosed in the specification, which provides the specific interactions the code has with pointers, vector tables, and object code. *Id.*, ¶52; '613 patent at 1:66-2:2. Thus, § 112, ¶ 6 applies to “program code for intercepting system calls.”

The construction of a means-plus-function limitation includes two steps: first, the court identifies the claimed function and second, the court identifies the corresponding structure in the written description that performs that function. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1321 (Fed. Cir. 2003). Here, as discussed above, the claim language is clear that the function of the “program code” is “intercepting system calls.” The patent provides one specific algorithm for intercepting system calls and defines “intercept[ing] a system call” by that algorithm. Specifically, the “Background of Invention” recites:

In order to intercept a system call, ***a pointer in the system call vector table to the system call is replaced with a pointer to alternative object code to be executed instead of the system call.*** Then, when the operating system reads the system call vector table in response to the system call being requested, the operating system will read the pointer to the alternative object code, and the alternative object code will execute instead of the system call. The alternative object code is typically known as a system call wrapper.

'613 patent at 1:66-2:7 (emphasis added). The patent refers to this same algorithm when discussing each embodiment. *See, e.g., id.* at 4:8-16 (“In one preferred embodiment . . . In order to maintain the table, System calls that establish a communication channel are intercepted. Pointers in the system call vector table to system calls that establish a communication channel are replaced with

pointers to alternative object code (a system call wrapper), Such that when the System calls are made, the System call wrapper executes instead.”); 4:44-48 (“[I]n one embodiment system calls that delete file descriptors are intercepted. Again, pointers in the system call vector table to System calls that delete file descriptors are replaced with pointers to a system call wrapper.”); 8:3-8 (“Once the copies 116 have been made and saved, the pointers 114 in the system call vector table 113 to the system calls 115 to be intercepted are replaced with pointers 118 to the system call wrapper 111, such that when a system call 115 to be intercepted is made, the system call wrapper 111 executes instead.”); *see also* 8:17-27 (describing the same process to intercept system calls); 9:25-33 (same); 9:56-64 (same); 13:63-14:3 (same). In view of these disclosures, a person of ordinary skill in the art would understand that the only disclosure of “intercepting a system call” in the ’613 patent is “replacing a pointer in each system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call.” Almeroth, Decl. ¶53.

For these reasons, the term “program code for intercepting system calls that [establish a file stored on media/create a copy of at least one file descriptor]” invokes 112, ¶ 6, the claimed function is “intercepting system calls that [establish a file stored on media/create a copy of at least one file descriptor]” and the structure disclosed by the ’613 for performing this claimed function is “code that replaces a pointer in each system call’s vector table with a pointer to alternative object code and executing the object code instead of a system call, where the system call [creates a file stored on media/creates a copy of at least one file descriptor].”

II. ’063 PATENT

A. Overview

The ’063 patent is directed to “[a]n information storage and management system [that] pre-categorizes information in generic categories ... to facilitate organization of information with little or no effort on the part of the recipient.” ’063 Patent, Abstract. To accomplish this, a

“Provider 14 sends information to the desired Recipient’s User Destination Address in an Information Pack.” *Id.*, 6:26-34. That “Information Pack” contains “a Category Identifier 26 used to identify a generic category to which the information . . . pertains.” *Id.* The ’063 Patent also “includes means for reading the Category Identifier . . . and for automatically placing” the information “in a location” that is “reserved” for that category. *Id.* 6:67-7:8.

B. “custom category identifier” (claim 4)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
a category identifier that a recipient customizes	No construction necessary.

Federal Circuit precedent is clear: descriptions of an invention as the “present invention” serve to define a claim’s scope. *See GPNE*, 830 F.3d at 1371 (“When a patent . . . describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.”); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (same) (citing *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318-19 (Fed. Cir. 2006)).

In *Honeywell*, the Federal Circuit considered whether the claim term “fuel injection system component” was limited to a “fuel filter.” *Id.* at 1316-17. The court rejected the assertion that the fuel filter was merely a preferred embodiment because the specification of the patent at issue had referred to the fuel filter as “this invention” or “the present invention.” *Id.* at 1318. The Federal Circuit concluded that “[t]he public [was] entitled to take the patentee at his word and the word was that the invention is a fuel filter.” *Id.* at 1318; *see also Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1277 (Fed. Cir. 2013) (“The applicants’ repeated and consistent attribution of the purity level of less than 0.25% levorotatory isomer to ‘the invention’ and ‘the instant invention’ thus gives’ meaning to the term ‘essentially free.’”); *Verizon*, 503 F.3d at 1308 (“describ[ing] the features of the ‘present invention’ as a whole . . . limits the scope of the invention”); *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1367-68 (Fed. Cir. 2007)

(limiting claim term “composite composition” to pellets in light of statements in specification that are “not descriptions of particular embodiments, but are characterizations directed to the invention as a whole”); *SciMed Life Sys., Inc. v. ACS, Inc.*, 242 F.3d 1337, 1343 (Fed. Cir. 2001) (“[T]he characterization of the coaxial configuration as part of the ‘present invention’ is strong evidence that the claims should not be read to encompass the opposite structure.”); *see also ContentGuard Holdings, Inc. v. Amazon.com, Inc.*, No. 2:13-CV-1112-JRG, 2015 WL 1289321, at *15, *71 (E.D. Tex. Mar. 20, 2015) (limiting multiple terms where the specification referred to “the present invention”).

Here, the ’063 patent is clear that the “present invention” includes “custom category identifiers” and that the customization is performed by the recipient of information packs. Each “information pack” delivered to a recipient, the ’063 patent explains, is associated with a “category identifier.” *See* ’063 patent, 6:32-34 (“a Category Identifier 26 [is] used to identify a generic category to which the information contained in the Information Pack 18 pertains.”). The specification describes how “the present invention” allows for a recipient to add an additional category identifier to a specific type of information pack (i.e., customize a category identifier) and that customization is communicated to the provider. *See id.*, 9:28-31 (“*The present invention* advantageously allows for *the Recipient’s* custom categorization of the Information Pack 18 to be communicated ... to the Provider 14.”) (emphasis added). Still describing “the present invention,” the specification refers to such a category identifier customized by the recipient as a “custom category identifier.” *See id.*, 9:42-54 (“All subsequent Information Packs 18 from the same Provider 14 to that Recipient 12 can then advantageously be automatically delivered directly to the proper custom category, by scanning the Information Pack 18 to determine whether the intended recipient has created custom categorization for an Information Pack 18 from that

Provider 14 on a previous occasion, and if so, modifying the Category Identifier 24 or adding an additional *Custom Category Identifier* (not shown) to the Information Pack 18 before placement into the Recipient's User Destination Repository 28, to instruct the system as to where the Information Pack 18 is to be automatically placed in the User Data Repository 28.”) (emphasis added). The patent never describes this customization as being performed by anyone other than the recipient.

As an example, the specification explains that a “purchaser [can] create[] a new folder ‘my new wheels’” and allow “future Information Packs” from the relevant car dealer to be deposited into the purchaser’s “my new wheels” folder. *Id.* 18:51-59. This user-created folder is referred to as a “custom category location.” *Id.* 18:27-28. A signal is then sent from the purchaser “containing the *Custom Category Identifier* of the new posted Information Pack 18.” *Id.* 18:51-59. The “custom category identifier” specifies the “custom category location” which, in this example is the “my new wheels” folder created (and therefore customized) by the recipient (potential new car purchaser).

Given the clear description of “the present invention” as including a “custom category identifier” that is customized by the recipient, this term should be construed as a “a category identifier that a recipient customizes.”

C. “data processing means” (claim 4)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.	No construction necessary.
Function: “analyzing the provider identifier of subsequent of said information packs, comparing said provider identifier of said subsequent information packs with said provider identifier stored in said storage means and in the event of a match between the	

provider identifier of one of said subsequent information packs and the provider identifier stored in said storage means, placing said one of the subsequent information packs in said custom location” Structure: None in the specification.	
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The use of the terms “means” gives rise to the presumption that §112, ¶ 6 applies. *See Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1303 (Fed. Cir. 2005) (“The limitation recites the word ‘means,’ which gives rise to the presumption that § 112, ¶ 6 applies.”). Because the claim only specifies the function to be performed by this means, § 112, ¶ 6 must apply.

The claim specifies that the function of the “data processing means” is: “analyzing the provider identifier of subsequent of said information packs, comparing said provider identifier of said subsequent information packs with said provider identifier stored in said storage means and in the event of a match between the provider identifier of one of said subsequent information packs and the provider identifier stored in said storage means, placing said one of the subsequent information packs in said custom location.” This function is not one that can be performed by ordinary computer hardware without specialized software. *Almeroth* at ¶61. Nor does the specification provide structure corresponding to the claimed function. *Id.* The specification’s only reference to the “data processing means” explains that “reading of the User Destination Address can be performed at the Processing Station 30, which preferably has its own data storage means and data processing means for analyzing the User Destination Address associated with any given Information Pack 18 and matching it to the proper corresponding User Data Repository 28.” ’063 Patent, 6:55-65. This merely reiterates the functional language of the claim. Moreover, the specification does not recite any hardware elements that could even arguably correspond to the

“data processing means.” Almeroth Decl. at ¶64. Because the specification provides no structure corresponding to the “data processing means,” claim 4 is indefinite.

III. '064 PATENT

A. Overview

The '064 patent is directed to “smart cards” (“plastic cards that contain in them a central processing unit (CPU) and supporting hardware”) that “have[] a plurality of application programs.” '064 patent at 1:7-9; 2:42-43. The “present invention provides ‘lightweight’ or fine grain scheduling of applications,” *id.* at 2:59-60, that, for example, allow an application “to execute ten steps” or maybe “just one step,” *id.* at 4:33-35. Specifically, a “virtual machine is used to execute one or more of the applications on the smart card” and a “control program communicates with the virtual machine to control scheduling to a predetermined granularity.” *Id.* at 4:31-34.

B. “scheduler program code . . .” (claim 1)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
<p>This is a means-plus-function limitation and indefinite.</p> <p>Function: “scheduling applications for execution in response to the allocation code and memory allocation” and “scheduling execution of the at least one application to a predetermined granularity”</p> <p>Structure: None in the specification.</p>	<p>No construction necessary.</p>

As discussed above, whether the recitation of “program code” for performing a function invokes § 112, ¶ 6 “depends on whether the stated objectives and operation of the code connote sufficiently definite structure.” *Glob. Equity*, at *29. Here, the '064 patent uses the similarly generic “scheduler program code” term which does not describe a specific structure by merely

adding the word “scheduler” because that simply specifies the function of scheduling. Almeroth Decl. at ¶73.

Nor does claim 1 provide any structure by reciting the intended result of the “program code,” i.e., “scheduling applications for execution in response to the allocation code and memory allocation” and “scheduling execution of the at least one application to a predetermined granularity”. *Id.*, ¶73. Neither of these functions can be performed by ordinary computer hardware without specialized software. *Id.*, ¶75. Like the “program” code of *Global Equity*, the claim does not prescribe how the “program code” interacts with other structures. Accordingly, § 112, ¶ 6 applies.

Thus, one must look to the specification to find the requisite structure. However, the specification provides none that can perform the claimed function. *Id.*, ¶76. Instead, the specification only states that “[v]arious scheduling algorithms” can be used and references three pre-existing scheduling algorithms without ever explaining how they must be modified to operate “in response to the allocation code and memory allocation” and schedule “execution of the at least one application to a predetermined granularity” as required by the claim. 4:40-47 (“Various scheduling algorithms such as round robin scheduling can be used. Alternatively, the control program can schedule just those applications that have incoming data. In yet another alternative, the control program schedules applications based on priorities assigned to the applications.”) The mere disclosure of these three algorithms does not provide any structure that responds “to the allocation code and memory allocation” or schedules to a “predetermined granularity” of execution. Almeroth Decl. at ¶77. The patent thus omits description of very structure allegedly

missing from the prior art. This fails to honor the patentee's end of the bargain made by invoking the benefit of § 112, ¶ 6.¹

Because there is insufficient structure linked to the claimed function, the term “scheduler program code” is indefinite.

C. “predetermined granularity” (claims 1 and 5)

Charter's Proposed Construction	DataCloud's Proposed Construction
“to execute only for a predetermined interval (e.g., number of steps)”	No construction necessary.

The specification is “the single best guide to the meaning of a disputed term.” *Phillips*, 415 F. 3d at 1315. Here, the specification '064 patent describes the scheduling of applications in terms of a predetermined interval of steps. For example, the specification discloses: “The control program communicates with the virtual machine to control scheduling to a predetermined granularity. For example, an application might be allowed to execute ten steps, or it might be allowed to execute just one step. The number of steps allowed may be fixed, or it may be determined once for each application or it may be determined repeatedly for every application just before executing the application.” 4:32-39. As another example, the specification states that “the selected application is activated and allowed to run for some number of steps that may be determined.” 10:15-17. These are the only discussions of how an application may be scheduled for execution to a “predetermined granularity” in the entire specification. Thus, given the clear meaning provided by the specification, a “predetermined granularity” should be construed as ““to execute only for a predetermined interval (e.g., number of steps).”

¹ The specification of the '064 patent also cites to U.S. Pat. No. 5,204,965 (the “'965 patent” (Ex. 8)). '064 Patent at 1:39-41. However, the '965 patent does not describe algorithms that include structure for scheduling in response “to the allocation code and memory allocation” or scheduling to a “predetermined granularity.” *Id.*, ¶78; *see also* Ex. 8 at 20:30-58 (describing a priority-based algorithm and a list based algorithm).

D. “control scheduling” (claim 1)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
“control the order in which applications are activated”	No construction necessary.

“[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution.” *Phillips*, 415 F.3d at 1317. Here, the patentee clearly defined “scheduling” during prosecution and disclaimed any other meaning. Specifically, in a December 29, 2003 Amendment, the patentee argued that “‘scheduling’ is used in the present application in the sense that there is a procedural plan, i.e., a scheduling regimen, *that controls the order in which applications are activated.*” December 29, 2003 Amendment (Ex. 9), at DTCLCH000096. Given this clear lexicography and disclaimer, the term “control scheduling” should be construed as “control the order in which applications are activated.”

IV. CAMPBELL PATENTS (’959, ’498, AND ’457 PATENTS)**A. Overview**

The Campbell Family Patents share a common specification that is directed to “a system and method for enabling anonymous network activity, while establishing virtual namespaces for clients.” ’959 Patent, 1:10-11.² The invention “allows clients to interact over a network in a fashion that is anonymous and unique to the session which the client is engaging in.” *Id.* at Abstract. The invention achieves this anonymity by a scheme that the patentee called “DNS Misdirection” comprising three algorithms (a “forwarder,” a “controller,” and a “deceiver”).

Figure 1 of the Campbell patents is instructive.

² While citations herein are to the ’959 patent, the ’959, ’498, and ’457 patents have identical specifications.

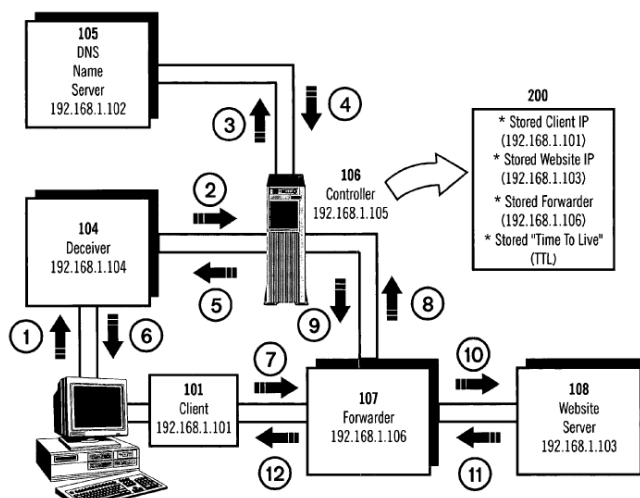


Figure 1

'959 Patent, Figure 1.

The '959 patent states that "[i]f the client (101) is to reach the web server (108), the client needs to obtain the web server's (108) IP address" which is done in existing systems through a "resolver" contained within the client's web browser that contacts a domain name server (DNS), the address of which is typically provided by the client's internet service provider. *Id.* at 3:13-45. In prior art systems, an address of the intended destination is returned by the DNS server to the client. *Id.* at 1:15-56.

In the invention of the Campbell patents, by contrast, "when an unresolved packet is sent from client (101), the packet is processed through the deceiver (104)." *Id.* at 3:46-48. From there, "the deceiver (104) queries the controller (106) to initiate a name resolution." *Id.* at 3:62-63. The controller queries the DNS server, but instead of returning the destination address to the client, the controller returns the IP address of a forwarder to the deceiver, which then returns it to the client. *Id.* at 4:15-40. Instead of directly contacting the destination server, the client is "deceived" into thinking the forwarder is the destination server; similarly, the destination server believes that the forwarder is the client. *Id.* at 4:43-46, 6:7-9, 6:23-26. The forwarder thus becomes an intermediary

sitting between the client and website server, and deceiving both client and website server into thinking they are communicating directly with each other.

As will be discussed further below, the patentee provided some description of the algorithms necessary to conduct this misdirection scheme, but did not fully describe these algorithms and failed to explain what the patentee meant by “virtual namespaces.”

B. “Forwarder,” “Controller,” and “Deceiver” Terms

The parties propose the following constructions for ““forwarder [IP address/device]”/“forwarding IP address”/“forwarding internet protocol (IP) address” which is included in the ’959 patent claims 1, 3, 7, 8; the ’457 patent claims 1, 7, 9, 12, 17; and the ’498 patent claim 1.

forwarding terms	
Charter’s Proposed Construction	DataCloud’s Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.</p> <p>Function: “to query a controller for the site address that the client intends to reach in order to have the destination server think that the forwarder is the client, and the client think that the forwarder is the destination server”</p> <p>Structure: Insufficient disclosure in the specification. To the extent that there is structure disclosed, it includes the steps disclosed at ’959 patent, 5:22-35, 6:9-35.</p> <p>Alternatively (under § 112 ¶ 6 or otherwise): “an algorithm that queries a controller for the site address that the client intends to reach in order to have the destination server think that the forwarder is the client, and the client think that the forwarder is the destination server.”</p>	<p>No construction necessary</p>

The parties propose the following constructions for “controller [device]” which is included in the ’959 patent claim 1; the ’457 patent claim 1; and the ’498 patent claims 1, 4.

controller terms	
Charter's Proposed Construction	DataCloud's Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.</p> <p>Function: “supply to a deceiver information (including address, ‘time to live’ (TTL), and other DNS result fields) relating to a forwarder in response to a request for domain name resolution by a client and providing to a forwarder a site address that the client intended to reach”</p> <p>Structure: Insufficient disclosure in the specification. To the extent that there is structure disclosed, it includes the steps disclosed at ’959 patent, 4:14-40, 5:25-32, 5:56-6:14.</p> <p>Alternatively (under § 112 ¶ 6 or otherwise): “an algorithm that supplies a deceiver with information (including address, “time to live” (TTL), and other DNS result fields) relating to a forwarder in response to a request for domain name resolution by a client and providing to a forwarder a site address that the client intended to reach.”</p>	No construction necessary

The parties propose the following constructions for “deceiver” which is included in the ’959 patent claim 1.

“deceiver”	
Charter's Proposed Construction	DataCloud's Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.</p> <p>Function: “provides name resolution for clients in order to deceiving the clients into thinking that a forwarder IP is actually the destination address”</p> <p>Structure: Insufficient disclosure in the specification. To the extent that there is structure disclosed, it includes the steps</p>	No construction necessary

disclosed at '959 patent, 3:46-62, 4:38-47, 5:52-55, 6:7-11.	
Alternatively (under § 112 ¶ 6 or otherwise): “an algorithm that communicates with clients and with a controller to provide name resolution for clients in order to deceive the clients into thinking that a forwarder IP is actually the destination address”	

1. The “Forwarder,” “Controller,” and “Deceiver” Together Constitute the DNS Misdirection Algorithms of the Present Invention

The forwarder, controller and deceiver terms used in the claims refer to the DNS Misdirection algorithms identified in the specification as the present invention. As discussed above, descriptions of an invention as the “present invention” serve to define a claim’s scope. *See GPNE*, 830 F.3d at 1371; *Verizon*, 503 F.3d at 1308.

Here, the specification states that “*the present invention* involves the use of three algorithms, known collectively as DNS Misdirection and individually as the deceiver, the controller, and the forwarder.” ‘959 Patent, 2:34-37 (emphasis added). A person of ordinary skill in the art would therefore understand “controller,” “forwarder,” and “deceiver,” refer generally to a scheme of “misdirection” in order to “deceive.” Declaration of Douglas Schmidt, Ph.D. (“Schmidt Decl.”) at ¶ 32. The only disclosures in the brief specification that explains the required “deceiving” and “misdirection” of the Campbell patents are its statements that “the client will be ‘deceived’ into thinking that the forwarder (107) IP address is actually the destination website server” and that “the forwarder IP address [] is masquerading as the destination website IP address” such that the destination server would “recognize the forwarder as the source” of data received from the client. ‘959 Patent, 4:43-46, 6:7-9, 6:23-26. Accordingly, a person of ordinary skill in the art would have understood that the invention is limited to algorithms that deceive (1) the client

into thinking that the forwarder is the destination IP address and (2) the destination server into the thinking that the forwarder is the source IP address. Schmidt Decl. at ¶ 33.

These terms--“controller,” “forwarder,” and “deceiver”--do not correspond to algorithms known to a person of ordinary skill in the art. Schmidt Decl. at ¶ 34. The term “deceiver” lacks any meaning within the field of computer networking. Schmidt Decl. at ¶ 34. The terms “controller” and “forwarder” have some meaning in the art, but not as specific algorithms that perform the functions set forth in the specification. Schmidt Decl. at ¶ 34. Nor does the specification disclose anything more than the functions each algorithm must perform. The “Summary of the Invention” does not describe any structure, but instead elaborates on each algorithm’s function, teaching:

The deceiver communicates with clients and with the controller. The deceiver provides name resolution for clients. The routine works the same as a standard name server, except when a query is received from a client, the deceiver allows the controller to supply the information. The controller communicates with the deceiver and the forwarder. The controller determines the address, “time to live” (TTL), and other DNS result fields and returns them to the deceiver. The controller is queried by the forwarder for the site address that the client intended to reach.

’959 patent at 2:37-46. This disclosure of mere function does not provide structure, nor are these functions that could be performed by ordinary computer hardware without specialized software. Schmidt Decl. at ¶ 36.

2. Construction of the “Forwarder,” “Controller,” and “Deceiver” Terms

Because these terms in view of the specification only connote function, § 112, ¶ 6 applies. Furthermore, even if § 112, ¶ 6 does not apply, because these terms were described as the components of the DNS Misdirection which constitutes “the present invention,” they must in this case be construed in view of the specification’s description of the DNS Misdirection algorithms, as set forth above.

(a) § 112, ¶ 6

If § 112, ¶ 6 applies, the claims are indefinite for failing to provide adequate structure as set forth below. Alternatively, if they are not indefinite, they should be construed as set forth below.

(i) The “Forwarder” Algorithm Is Indefinite

The ’959 patent provides a description of the algorithm of the forwarder, however, the algorithm described is incomplete. ’959 patent at 5:22-35, 6:9-35.³ This disclosure in fact provides much of the “forwarder” algorithm, and in particular, describes the process of forwarding packets to the destination server such that the client thinks that the forwarder is the destination server. Schmidt Decl. at ¶ 37. However, these steps are incomplete because although the specification states that the forwarder is to return data from the destination server, it does not provide sufficient algorithmic steps for doing so. Schmidt Decl. at ¶ 38. Specifically, the specification states that “the forwarder, in principle, reverses the process” and when the “forwarder determines the client’s proper IP address, the forwarder then transmits the reply data back to the client.” 6:28-35. It does not describe how the forwarder actually “determines the client’s proper IP address.” Schmidt Decl. at ¶ 38. A person of ordinary skill in the art would understand that in order to have a complete algorithm the patent would need to describe what components are involved in this determination of the client IP address by the forwarder and how they interact; yet no such description is provided. Schmidt Decl. at ¶ 39. Without such a description, no structure is provided that permits the forwarder to forward data from the destination server to the client and maintains anonymity of the client. Schmidt Decl. at ¶ 39. Accordingly, because the forwarder algorithm is incomplete, the

³ To the extent that the Court finds that “forwarder” is not indefinite, the deceiver should at least be understood to be an algorithm that implements the steps disclosed by the ’959 patent at 5:22-35, 6:9-35.

terms “forwarder [IP address/device]” / “forwarding IP address” / “forwarding internet protocol (IP) address”⁴ are indefinite.

(ii) The “Controller” Algorithm Is Indefinite

The ’959 patent also partially discloses the algorithm of the controller. *See* ’959 patent at 4:14-40, 5:25-32, 5:56-6:14; Schmidt Decl., at ¶ 46.⁵ However, like the forwarder, the algorithm described for the controller is incomplete. Specifically, as discussed above, the specification tells us that the “controller determines the address, ‘time to live’ (TTL), and other DNS result fields and returns them to the deceiver.” ’959 patent at 2:43-45. The specification, however, provides no structure that permits the controller to determine the time-to-live. Schmidt Decl. at ¶ 47. The specification simply discloses desired results of the algorithm instead of how to achieve it. Schmidt Decl. at ¶ 47. A person having ordinary skill in the art would not know from reading the specification how the TTL is to be determined including what factors, if any, are used to calculate the TTL. Schmidt Decl. at ¶ 47. Accordingly, the term “controller [device]” is indefinite.

(iii) The “Deceiver” Algorithm Is Indefinite

Like the forwarder and the controller, the specification of the Campbell patents only provide a partial description of the algorithm. *See* ’959 patent at 3:46-62, 4:38-47, 5:52-55, 6:7-

⁴ A person of ordinary skill in the art would understand that all of these terms rise and fall with “forwarder” because that person of ordinary skill would, in view of the specification, understand that a “forwarder device” is merely a device executing the “forwarder algorithm.” Schmidt Decl., ¶ 40. The person ordinary skill in the art would further understand that a “forwarder IP address” and “forwarding IP address” in view of the specification would be the IP address of a device that is executing the forwarder algorithm. Schmidt Decl., ¶ 40.

⁵ To the extent that the Court finds that “controller” is not indefinite, the deceiver should at least be understood to be an algorithm that implements the steps disclosed by the ’959 patent at 4:14-40, 5:25-32, 5:56-6:14.

11.⁶ However, there are two significant steps that the specification does not describe in sufficient detail to inform a person of ordinary skill of the structure of the algorithm.

First, the specification starts by stating that a “resolver query is routed to the deceiver.” ’959 Patent, 5:52-53. As discussed above, resolver queries in existing systems were routed to DNS servers that were provided by the internet service provider. *Id.* at 1:15-56, 3:13-45. The specification of the Campbell patents fails to disclose how the resolver query is “routed to deceiver” instead of the typical DNS server. The specification teaches that the query needs to be intercepted by the deceiver to route the query to the controller, but does not teach how this interception is accomplished. Schmidt Decl. at ¶ 49. Such interception is not routine therefore a person of ordinary skill in the art would not be able to identify the requisite algorithm from the specification. *Id.* at ¶ 49. A person of ordinary skill in the art would understand that this instruction to route the query to the deceiver merely discloses the intended result, not the structure needed to achieve this result. *Id.* at ¶ 49.

Second, Step 407 of the Figure 3 recites the “[d]eceiver (104) stores to the Controller (106): (1) The client’s IP (2) The destination website IP (3) The Forwarder IP (4) The TTL value.” ’959 Patent, Fig. 3. The specification fails to disclose how the deceiver would store these values to the controller. Schmidt Decl. at ¶ 50. Thus, a person of ordinary skill in the art would not be able to identify the algorithm required by the Campbell patents’ recitation of a “deceiver” in the asserted claims. *Id.* at ¶ 51. For these reasons, the term “deceiver” is indefinite.

(b) § 112, ¶ 6 Not Applicable

⁶ To the extent that the Court finds that “deceiver” is not indefinite, the deceiver should at least be understood to be an algorithm that implements the steps disclosed by the ’959 patent at 3:46-62, 4:38-47, 5:52-55, 6:7-11.

If § 112, ¶ 6 does not apply, the forwarder, controller and deceiver terms should be construed as set forth above because, as explained above, the patentee referred to these as components of the DNS Misdirection which constitutes “the present invention.”

C. “virtual names[pace]” (’498 Patent claims 1 and 4)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
Indefinite	No construction necessary

Claims 1 and 4 are indefinite because the claims fail to inform a person of ordinary skill in the art of the scope of the invention. Claim 1 states the controller determines a destination IP address “from a plurality of categories for virtual names based on a virtual namespace destination address specified by the request data ... wherein a category of the plurality of categories is related to the virtual namespace destination address” ’498 Patent, Claim 1. The terms “virtual names” and “virtual namespace” are not terms of art within the field of computer networking. Schmidt Decl. at ¶ 53. Moreover, neither the claims nor the specification define a “virtual namespace” or “virtual names.” The specification merely states that “virtual namespaces allow system administrators and clients to create a virtually endless string of identities for clients and their target website server(s)” and provides a number of examples without ever stating what constitutes a “virtual namespace.” ’498 Patent, 4:61-64. The examples of names “associated with groupware (e.g., ‘mother.birthday.card’; ‘smith.family.reunion.newyork’)” or a namespace of .bank do not inform a person of ordinary skill in the art of the scope of the invention. *See* ’959 patent at 4:56-66; Schmidt Decl. at ¶ 53. There is no way to know what is, and what is not a virtual namespace. In fact, the specification states the “variations are virtually endless” and provides no guidance as to what is not “namespace” or what is non-virtual. ’959 patent at 4:66-67. A person of ordinary skill in the art therefore would not understand what subject matter is being claimed by the use of the

terms “virtual names” and “virtual namespace.” Schmidt Decl. at ¶ 53. Accordingly, the terms “virtual names” and “virtual namespace” are indefinite.

V. '139 PATENT

A. Overview

The '139 patent is directed to “a system and process for managing content, such as for use in Web pages and similar constructs.” '139 patent, 2:54-56. In particular, the '139 patent teaches using a “metadata template” to create a “data entry form.” The “data entry form” is in turn “used to generate a Web page.”

B. “metadata template” (claims 1, 8) and “data entry form” (claims 1, 8)

Charter's Proposed Construction	DataCloud's Proposed Construction
“metadata template” : a template containing information about the format and content of a data entry form	No construction necessary
Charter's Proposed Construction	DataCloud's Proposed Construction
“data entry form” : a form used to generate a web page and is created from a metadata template	No construction necessary

As discussed above, “when a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.” *GPNE*, 830 F.3d at 1370. Here, Charter’s construction of the terms “metadata template” and “data entry form” should be adopted because the specification consistently and repeatedly describes the information contained in the “metadata template” as the basis for generating a “data entry form” (also referred to as a “data entry document”).

Again and again, the metadata template is said to define the content and format of the data entry form. For example, the specification provides that “a metadata template 100 [is] generated by the content management framework 18 of FIG. 1” and “[t]he purpose of the metadata template 100 is to allow a user to control the *format and content of a data entry form*, such as

data entry form 130 described [] with reference to FIG. 7.” *See* ’139 patent, 8:10-16 (emphasis added); *see also* 8:59-67 (“The metadata template 100 defines a data entry form... . The data entry form 130 is built using the metadata defined in the metadata template 100.”); 3:1-3 (“A data entry form is built including individual data entry elements responsive to user selections on the user interface of the metadata form.”); 9:41-43 (“The data entered via the data entry form 130 is rendered into Web page 160 in *a format defined by the metadata template 100.*”) (emphasis added); 9:24-34 (“The metadata template 100 in a similar fashion *defines the remaining fields and labels* [of the data entry form] Other forms of *appearance, structure, and content organization* are feasible.”) (“emphasis added). The specification further explains how the metadata template is used to control the format and content of a data entry form. For example, “[t]he data entry elements of the data entry form are defined as one or more classes within the retrieved template” and “[t]he data entry form is rendered by enumerating each of the one or more classes of the stored template and generating each data entry element of the one or more enumerated classes as described by the set of information attributes.” *Id.*, 3:5-10. Additionally “[a] base template *defining a set of properties of and characterizing one or more data entry controls* for use in a data entry form is processed” and “[t]he data entry form is built as a set of Web page elements responsive to a call to the public method of the template.” *Id.*, 3:13-17 (emphasis added).

The specification does not describe the “metadata template” as having any purpose other than to generate a data entry form based on the information contained therein. Thus, “metadata template” means “a template containing information about the format and content of a data entry form.” *See GPNE*, 830 F.3d at 1370.

The sole purpose of the “data entry form,” on the other hand, is to generate a webpage. For example, “[t]he content of the *data entry form 130 can be used to generate a specific Web page.*” *See id.* 9:35-36 (emphasis added); *see also* 8:14-17 (“[T]he data entry form can be used to generate a Web page. Such as the populated Web page 160 described below with reference to FIG 8.”); 9:3-5 (“The remainder of the data entry form 130 includes fields and labels specific to the content of the target Web page”); 6:32-37 (“One or more documents 45-48 (corresponding to the document 34 shown in FIG. 2) are generated from the metadata template 44 by the content management framework 18. In turn, each document 45-48 can be used to generate the individual Web pages 49-52.”).

The specification does not describe the “data entry form” as having any purpose other than generating webpages, and does not provide any other ways of creating a “data entry form” other than by using a “metadata template.” Thus, a “data entry form” is “a form used to generate a web page and is created from a metadata template.” *See GPNE*, 830 F.3d at 1370.

C. “content management component configured to . . .” (claim 1)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.</p> <p>Function: “display a graphical interface based on a metadata template, the metadata template comprising an object that represents a structure and an appearance of a web page, wherein the object is based on a class stored in a base template, and wherein the graphical interface comprises an input field corresponding to the object, the input field defining a property of a data entry field, and generate a data entry form comprising the data entry field, wherein the data entry field is configured to accept input corresponding to content of the object”</p> <p>Structure: None in the specification.</p>	<p>No construction necessary.</p>

Like claims that use “means for” phrases, the “content management component” introduces a function without disclosure of any structure. *See, e.g., Alarm.com, Inc. v. SecureNet Techs., LLC*, No. CV 15-807-RGA, 2019 WL 3996883, at *6 (D. Del. Aug. 23, 2019) (“While the claim term does not use the words ‘means,’ the word ‘component’ is a ‘nonce’ or non-structural word.”); *see also Cypress Lake Software, Inc. v. Samsung Elecs. Am., Inc.*, 382 F. Supp. 3d 586, 622 (E.D. Tex. 2019) (finding the terms “navigation element handler component,” “navigation director component,” and “second visual component” are governed by 35 U.S.C. § 112, ¶ 6). One court, faced with the nearly identical term--“connection management component”--determined it does not connote structure, is “purely functional” and thereby invokes § 112, ¶ 6. *See Alarm.com, Inc.*, 2019 WL 3996883, at *6.

Here, the term “content management component” similarly fails to connote structure and merely describes the function—managing content. Almeroth Decl. at ¶88. The associated functional language in claim 1 also does not connote any particular structure. Claim 1 states that the content management component is configured to “display a graphical user interface based on the metadata template” and “generate a data entry form comprising the data entry field.” The claim does not specify what algorithms are used to perform these two functions. Almeroth Decl. at ¶89. Nor is this function one that ordinary computer hardware can perform without specialized software. *Id.*, ¶93. Thus, the term “content management component” is governed by § 112, ¶ 6.

One must, therefore, look to the specification to find the requisite structure. It is, however, nowhere to be found. Almeroth Decl. at ¶95. The specification does not even so much as mention the term “content management component.” It merely asserts that the claimed functions are performed in a “content management framework,” but fails correlate this “framework” to any identifiable structure other than a “server.” *See* ’139 patent, 4:27-28. A “server,” however, is no

more capable than an ordinary computer and without specialized software would not be able to perform the claimed function. Almeroth Decl. at ¶93.

The specification, however, fails to disclose the necessary algorithm. Instead, it explains that “[t]he content management framework 18 includes three main modules: form builder 30, element builder 31, and render controller 32.” *Id.*, 5:61-63; Fig. 2. A person of ordinary skill in the art would have no way of knowing what algorithms the inventor envisioned resided within these “modules.” Almeroth Decl. at ¶95. The block diagram in Figure 2 depicting the modules are merely “black boxes”; there is no identification of any specific hardware or algorithms other than a generic “server.” Although there is further discussion of the content management framework in Figs. 9-13 and from column 6, line 61 to column 14, line 29, nothing describes how to perform the requisite function of “displaying a graphical interface,” nor is there anything that “clearly links” any portion of the specification to this function as required by § 112 ¶ 6. *Id.* at ¶96.

Accordingly, because the specification does not “disclose with sufficient particularity” the structure for performing the claimed function, the claim is indefinite. *See Triton Tech of Tex., LLC v. Nintendo of Am., Inc.*, 753 F.3d 1375, 1378 (Fed. Cir. 2014) (“[T]he patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and clearly link that structure to the function.”).

D. “web page generator configured to . . .” (claim 1)

Charter’s Proposed Construction	DataCloud’s Proposed Construction
<p>Governed by 35 U.S.C. § 112 ¶ 6 and indefinite.</p> <p>Function: “generate the web page based on the metadata template, wherein the web page comprises the content represented by the input”</p> <p>Structure: None in the specification.</p>	<p>No construction necessary.</p>

The “web page generator” introduces a function without disclosure of any structure—let alone “sufficient structure” to perform the function. *See Williamson*, 792 F.3d at 1348–49. Indeed, the term “by itself, does not identify a structure by its function.” *See Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1348 (Fed. Cir. 2016). The Federal Circuit addressed this precise issue in *Advanced Ground*. There, the court found “[t]he term ‘symbol generator’ invokes the application of § 112, ¶ 6 because it fails to describe a sufficient structure and otherwise recites abstract elements ‘for’ causing actions or elements ‘that can’ perform functions.” *Id.* at 1347–48, (internal citations omitted). The Federal Circuit noted that “[i]rrespective of whether the terms ‘symbol’ and ‘generator’ are terms of art in computer science, the *combination* of the terms as used in the context of the relevant claim language suggests that it is simply an abstraction that describes the function being performed (i.e., the generation of symbols).” *Id.* at 1348. Similarly, here, combining the terms “web page” and “generator” does nothing more than describe the function of the term—generation of a web page—without delineating any structure. Almeroth Decl. at ¶¶99. This function is also not one that is capable of being performed by ordinary computer hardware without specialized software. *Id.*, ¶¶102. “[W]eb page generator,” therefore, should be governed by § 112, ¶ 6.

The claim language identifies the function of the “web page generator,” which is to “generate the web page based on the metadata template, wherein the web page comprises the content represented by the input.” The specification, however, fails to hold up its end of the bargain. It never discloses the promised structure for performing this claimed function. It does not even refer once to the term “web page generator.” The only portion of the specification that even discusses generating a web page explains “FIG. 8 is a screen shot, by way example, of a populated *Web page 160 generated by the Web server of FIG. 1.*” ’139 patent, 9:36-38 (emphasis

added). No algorithm for generating this screen shot of a web page is ever provided. *See also* Almeroth Decl. at ¶105.

Merely stating that the web page generator is on a “web page server” does not indicate any structure whatsoever for the “web page generator.” *See Triton Tech*, 753 F.3d at 1378 (“[T]he patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and clearly link that structure to the function.”). A person having ordinary skill in the art would have understood that additional steps would have been required to be performed to generate the actual source code of a website from data entered into a form. *See also* Almeroth Decl. at ¶103. Because no corresponding structure is “clearly linked” to the function of generating the website, the term is indefinite.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has been served on all counsel of record via the Court's ECF system on March 3, 2022.

/s/ Michael D.K. Nguyen
Michael D.K. Nguyen